

**STATE OF KANSAS
DEPARTMENT OF HEALTH AND ENVIRONMENT**

In the Matter of:

**Environmental Contamination at the
Caterpillar Work Tools Site
600 Balderson Boulevard
Wamego, Kansas**

Case No. 09-E-0147- BER

**Caterpillar Work Tools, Inc.
Respondent.**

CONSENT AGREEMENT AND FINAL ORDER

The Parties hereto, the Kansas Department of Health and Environment ("KDHE"), and Caterpillar Work Tools, Inc., (also referred to herein as "Respondent"), a domestic for-profit corporation, authorized to do business in the State of Kansas, having agreed that settlement of this matter is in the best interests of all parties and the public, hereby represent and state the following:

1. Respondent agrees to undertake all actions required by the terms and conditions of this Order.
2. This Order is a Final Order of the Secretary of the Kansas Department of Health and Environment ("Secretary") pursuant to the Kansas Administrative Procedures Act ("KAPA"). Respondent agrees that jurisdiction is proper and not to contest this Order, the authority of the Secretary to issue this Order or any action by KDHE to enforce the

terms of this Order.

3. No change in the ownership or corporate status of Respondent shall alter its responsibilities under this Order.
4. Respondent shall provide a copy of this Order to any subsequent owners or successors before ownership rights are transferred. Respondent shall provide a copy of this Order to all contractors, subcontractors, laboratories and consultants which are retained to conduct any work performed under this Order, within fourteen (14) days after the effective date of this Order or the date of retaining their services. Notwithstanding the terms of any contract, Respondent is, and shall remain, responsible for compliance with this Order and for ensuring that its contractors and agents comply with this Order.

DEFINITIONS

5. Terms used in this Order, if defined in state statutes or the associated regulations, shall have the meanings assigned to them in the statute or the regulations. To the extent not inconsistent with the meanings assigned to them in statute or regulation, the terms listed below if used in this Order, or in attached or incorporated documents shall have the following meanings.
 - a. "CAD" shall mean Corrective Action Decision, issued by KDHE selecting the remedy to be implemented to address contamination at the site, the scope of which being defined herein.
 - b. "CAP/CA" shall mean Corrective Action Plan/Corrective Action, the scope of which being defined herein.

- c. "CI/CAS" shall mean Comprehensive Investigation /Corrective Action Study, the scope of which being defined herein.
- d. "Day" shall mean a calendar day unless expressly stated to be a working day.
- e. "IM" shall mean Interim Measure, the scope of which being defined herein.
- f. "RSK Manual" shall mean the KDHE Risk-Based Standards for Kansas Manual 4th Version (June 2007) and subsequent updates. The manual describes the process for establishing chemical-specific and site-specific cleanup goals for soil, groundwater and indoor air, and provides reference to additional KDHE policies for cleanup goals involving surface water and sediment that are protective of human health and the environment.
- g. "Working day" shall mean a day other than a Saturday, Sunday or State of Kansas holiday. In computing any period of time under this Order where the last day would fall on a Saturday, Sunday or holiday recognized by the State of Kansas the period shall run until the end of the next working day.

JURISDICTION

- 6. KDHE is a duly authorized agency of the State of Kansas, created by act of the legislature, pursuant to K.S.A. 75-5601, *et seq.*
- 7. The Secretary of KDHE (also referred to herein as the "Secretary") has authority and responsibility to protect the public health and the environment; specifically, as it pertains to contamination and remediation of contamination of the waters and soils of the state, under the authority of K.S.A. 65-161 through K.S.A. 65-171z; relative to the safe and

sanitary disposal of hazardous wastes, under the authority of K.S.A 65-3430, *et seq.*; and, in matters involving hazardous substances and the hazardous substance cleanups, under the authority of the Kansas Environmental Response Act (K.S.A. 65-3452a, *et seq.*).

8. More specifically, the Secretary has authority, pursuant to K.S.A. 65-164(d), to order a person, company or corporation that has or is polluting the waters of the state to treat the sewage or other polluting material to prevent the future pollution of waters of the state.
9. The Secretary has the authority pursuant to K.S.A. 65-3453(a) (1) to determine that the cleanup of a site polluted by a hazardous substance is necessary to protect the public health or the environment.
10. The Secretary has the authority pursuant to K.S.A. 65-3453(a) (3) to issue cleanup orders to persons responsible for the health or environmental hazard created by a hazardous substance.
11. K.S.A. 65-3453(a) (4) authorizes the Secretary to recover moneys from persons responsible for the health or environmental hazard created by a hazardous substance.

FINDINGS OF FACT

12. **Site Description.**

- a. The Caterpillar Work Tools, Inc., site is an active metals fabrication facility located at 600 Balderson Boulevard in Wamego, Pottawatomie County, Kansas, in the SW ¼ of Section 3, Township 10 South, Range 10 East. Unless otherwise stated, the entire subject property will be referred to as the “Caterpillar Work Tools property”. For purposes of this order, the term, “Site”, is defined to include

the 600 Balderson Boulevard property and all areas and media where hazardous substances and any other contamination or pollution originating from the Caterpillar Work Tools facility has migrated.

- b. The facility location is identified in Exhibit 1A and facility layout is depicted in Exhibit 1B.

13. Business Information.

- a. Caterpillar Work Tools, Inc. is a domestic for-profit Kansas corporation incorporated in 1949. This corporation is active and in good standing.
- b. The corporation's mailing address, on file with the Kansas Secretary of State is:

100 Northeast Adams Street
Peoria, Illinois 61629-4295.

- c. The resident agent and registered office in Kansas is:

The Corporation Company
515 South Kansas Avenue
Topeka, Kansas 66603

- d. Caterpillar Work Tools, Inc., was formerly known as Balderson, Inc. Balderson, Inc., was acquired in a stock purchase by Caterpillar Inc., in 1990. The name of Balderson, Inc., was changed to Caterpillar Work Tools, Inc. in 1998. Caterpillar Work Tools, Inc., remains a wholly-owned subsidiary to Caterpillar Inc.
- e. Facility operations consist of manufacturing tools for Caterpillar machines, by fabricating raw steel through the following processes: 1) Shaping: cutting steel using propylene/oxygen or plasma laser operations; 2) Machining: manipulating

steel components by drilling, turning, boring, and facing each component to size;

3) Welding/finishing: organizing and combining machined components into finished work tools and welding them into finished products. Finished products include buckets, dozer blades, forks, grapples, quick couplers, rippers, hydraulic hammers, and a variety of hydro-mechanical tools.

14. Site Ownership and Occupancy History.

- a. The property is located in an industrial area on the east side of Wamego, and is surrounded by commercial and industrial properties to the south and east, agricultural land on the north, east, and south, and a residential area to the west.
- b. The Site was agricultural land until it was purchased in 1971 by Balderson, Inc., and then subsequently sold to the City of Wamego.
- c. The City of Wamego erected a factory on the Site and leased it to Balderson, Inc., in 1973.
- d. A second tract was also purchased by Balderson, Inc., sold to the City of Wamego and leased back to Balderson, Inc., in 1974.
- e. Balderson, Inc., continued to lease the property until 1989, when the company exercised its option to purchase the property back from the City of Wamego.
- f. The property is still owned by Caterpillar Work Tools, Inc.

15. Environmental Investigations.

- a. An environmental assessment of the property was conducted in August 2007 by a contractor for KDHE. Tetrachloroethylene (PCE) was detected at a concentration

of 1.1 micrograms per liter ($\mu\text{g/L}$) in the City of Wamego Public Water Supply (PWS) Well No. 9, which is located immediately adjacent to the northwest corner of the Caterpillar Work Tools property. PWS Well No. 9 was subsequently sampled by the KDHE on May 22, 2008, and on June 19, 2009. The analytical results from May 22, 2008, revealed that PCE was non-detect with a reporting limit of $1.0 \mu\text{g/L}$ and on June 19, 2009, the PCE concentration was $0.59 \mu\text{g/L}$. Additionally, Well No. 9 was sampled by Associated Environmental, Inc. on May 18, 2008, and the PCE analytical results were $0.33 \mu\text{g/L}$, a result that was below the quantitation limit. The intermittent and trace level PCE detections in the water samples collected from Well No. 9 were all below the U.S. Environmental Protection Agency (EPA) Maximum Contaminant Level (MCL) and KDHE's Risk-Based Tier 2 Residential Groundwater Pathway objective of $5 \mu\text{g/L}$.

- b. The analytical data for a groundwater sample collected from a monitoring well, located on the Caterpillar Work Tools property north of a former underground storage tank (UST), identified PCE at $58.6 \mu\text{g/L}$, trichloroethylene (TCE) at $40.3 \mu\text{g/L}$, and cis-1,2-dichloroethylene (DCE) at $169 \mu\text{g/L}$. These contaminants were above their respective MCLs of 5, 5, and $70 \mu\text{g/L}$.
- c. In May-June 2008, KDHE performed a Preliminary Assessment (2008-PA) and conducted a Site Inspection (2008-SI) at the Site. As part of the 2008-PA and

2008-SI, KDHE reviewed KDHE-Bureau of Waste Management (BMW) files to determine the type of chemicals historically used at the site.

- i. The research shows that in a 2005 Hazardous Waste Site Information Verification Report, Caterpillar Work Tools (EPA I.D. No. 990874471) listed regulated waste codes D001 (ignitibility characteristic), D009 (mercury), D010 (selenium), F003 (spent non-halogenated solvents), and F005 (spent non-halogenated solvents) in the wastes handled on-site. In 1992, Balderson, Inc. reported on a Notification of Regulated Waste Activity the waste codes D018 (benzene) and D039 (PCE).
- ii. As part of the 2008-SI, KDHE collected groundwater samples from monitoring wells located on the Caterpillar Work Tools property. Analytical data indicated the presence of TCE at concentrations of 38 µg/L (MCL: 5 µg/L), PCE at 50 µg/L (MCL: 5 µg/L), and cis-1,2-DCE at a concentration of 228 (MCL: 70 µg/L).
- d. A follow-up site investigation was conducted by KDHE in May-June 2009. The Site Inspection Report 2 (SI2) completed by the KDHE concluded "[W]hile the Caterpillar Work Tools, Inc., facility appears to be a source of PCE releases to groundwater, another source is present to the west of this area that appears to be related to the historically detected PCE and TCE releases from the PAL Co. dry cleaner site at 405 Lincoln Avenue." The SI2 also concluded, "The groundwater

pathway appears to pose a significant threat from a contamination source west of the Caterpillar Work Tools Inc., property."

e. The following information was provided by the Respondent (i.e., Caterpillar Work Tools, Inc.) in their response letter dated April 6, 2009, to KDHE's Information Request and Notification of Potential Liability letter to the Respondent dated February 4, 2009.

- i. Prior to Caterpillar's acquisition of Balderson, employees reportedly dumped used thinner and waste cleaning solvents containing PCE and TCE in a grassy area adjacent to the maintenance crib/paint booth area from approximately 1974 to 1981. The following items were described as "unknown": 1) amount of substances released; 2) whether the release was reported to any regulatory agencies; and 3) whether any investigations or response actions were conducted. The reported release area is located near MW-2, which has exhibited PCE, TCE, and cis-1,2-DCE concentrations above their respective MCL in groundwater.
- ii. Prior to Caterpillar's acquisition of Balderson, employees reportedly dumped paint thinner solvents containing PCE and TCE in a gravel area adjacent to the back door of the existing paint shop from approximately 1981 to 1988. The following items were described as "unknown": 1) amount of substances released; 2) whether the release was reported to any regulatory agencies; and 3) whether any investigations or response actions

were conducted. The reported release area is located near MW-2, which has exhibited PCE, TCE, and cis-1,2-DCE concentrations above their respective MCL in groundwater during multiple sampling events.

- f. The following information was provided by the Respondent (i.e., Caterpillar Work Tools) in their response letter dated July 27, 2009 to KDHE's Request for Information – Additional Questions letter to the Respondent dated May 28, 2009.
 - i. According to a 1990 report entitled, *Due Diligence Assessment*, one floor drain from the maintenance shop discharged to the storm water drainage ditch located on the west side of the Caterpillar Work Tools property. The maintenance shop is in close proximity to the area where Balderson employees reportedly dumped used thinner and waste cleaning solvents containing PCE and TCE in a grassy area adjacent to the maintenance crib/paint booth area from approximately 1974 to 1981.
 - ii. The 1990 *Due Diligence Assessment* also indicated that waste carburetor cleaner with waste code F001 (spent halogenated solvents, including PCE and TCE) was generated from the facility.
 - iii. The facility was notified by KDHE-BWM in a letter dated July 6, 1988 that waste paint thinner was dumped on the ground at the east end of the paint building, in violation of Kansas statutes (Kansas Statutes Annotated [KSA] 65-3411(a)). This corroborates information previously provided to KDHE-BER regarding paint thinners being dumped in this area.

- g. A leaking gasoline UST was removed from the facility in 1988. This gasoline UST was originally installed in 1974. The facility entered KDHE's UST Trust Fund in 2003. Seven monitoring wells were installed to monitor the groundwater contamination. Results from the June 2009 UST Trust Fund groundwater monitoring report indicated up to six feet of free-phase product from the UST. The free-phase product and associated soil and groundwater contamination appear to be limited to the Caterpillar Work Tools property. The June 2009 report also indicated benzene concentrations up to 116 µg/L, above the MCL of 5 µg/L. A soil-vapor extraction system is currently operating at the Caterpillar Work Tool property to mitigate the petroleum hydrocarbon contamination related to the former UST. Quarterly monitoring and operation of the soil-vapor extraction system is currently being conducted through the UST Trust Fund.

CONCLUSIONS OF LAW

16. Respondent is a "person", "company", "corporation", "institution" or "municipality" within the purview of, K.S.A. 65-164 through K.S.A. 65-171z, and K.S.A. 65-3452a, *et seq.*
17. The Site constitutes a "site" within the meaning of K.S.A. 65-3453.
18. The presence of the contaminants identified in the groundwater underlying and surrounding the Site constitutes "pollution" as defined by K.S.A. 65-171d.
19. Contaminants identified in the groundwater underlying and surrounding the Site are "hazardous substances" as defined by K.S.A. 65-3452a.

20. The facts set forth above constitute:
- a. The pollution of the land or waters of the state or the threat of pollution of the land or waters of the state in violation of K.S.A. 65-164(d);
 - b. A health or environmental hazard created by a hazardous substance requiring cleanup pursuant to K.S.A. 65-3453.
21. Respondent is a person responsible for the health or environmental hazard created by the hazardous substance(s) and is therefore responsible for costs incurred by KDHE pursuant to K.S.A. 65-3455.
22. The environmental contamination identified at the Site is causing or threatens to cause pollution of the soil and waters of the state, or is, or threatens to become, a hazard to persons, public health or safety.

ORDER

23. The Secretary hereby orders and the Respondent agrees to conduct the activities identified and be bound by the terms set forth herein.
- a. All activity contemplated or performed pursuant to this Order shall be conducted subject to the approval of KDHE in accordance with the terms of this Order and consistent with the standards, specification and schedules approved by KDHE as contained in the exhibits to this Order.
 - b. Failure to comply with any of the terms and conditions of this Order or incorporated exhibits shall be considered a violation of this Order and may subject

the Respondent to such administrative actions and penalty provisions as set forth in this Order or otherwise authorized by law.

- c. All communications, notifications and requests required under this Order shall be made in writing. For the purposes of this Order, fax transmissions will be considered as being in writing; e-mail transmissions shall not be considered as being in writing.
 - d. Unless otherwise directed by KDHE, Respondent shall provide to KDHE one hard copy plus one electronic copy of each deliverable required pursuant to this Order.
 - e. All documents submitted to KDHE pursuant to this Order are subject to KDHE approval and shall be considered draft documents until accepted as final by KDHE.
 - f. Any documents, reports, plans, specifications, schedules and/or attachments required by this Order, upon acceptance by KDHE, shall be deemed incorporated into this Order by reference.
24. **Exhibits Incorporated.** The following documents, as required, are or shall be incorporated herein by reference:
- a. Exhibit 1A: Facility Location Map
 - b. Exhibit 1B: Facility Layout
 - c. Exhibit 2A: Interim Measures (IM) Scope of Work (SOW).
 - d. Exhibit 2B: Comprehensive Investigation/Corrective Action Study (CI/CAS)

SOW.

- e. Exhibit 2C: Corrective Action Plan/Corrective Action (CAP/CA) SOW.
 - f. Exhibit 3A: IM Work Plan/Design (incorporated herein upon KDHE approval).
 - g. Exhibit 3B: CI/CAS Work Plan (incorporated herein upon KDHE approval).
 - h. Exhibit 3C: CAP/CA Work Plan (incorporated herein upon KDHE approval).
 - i. Exhibit 4: Project Deliverable and Milestone Schedule.
 - j. Exhibit 4A: IM Schedule (incorporated herein upon KDHE approval).
 - k. Exhibit 4B: CI/CAS Schedule (incorporated herein upon KDHE approval).
 - l. Exhibit 4C: CAP/CA Schedule (incorporated herein upon KDHE approval).
 - m. Exhibit 5: Corrective Action Decision (CAD) (incorporated herein upon KDHE final issuance).
 - n. Exhibit 6: Field Activities Notification Form.
 - o. Exhibit 7: Form of Invoice for Past Costs and Oversight Costs.
25. **KDHE Requested Modifications to Documents.** KDHE may ask the Respondent to make specific modifications to any document required by this Order. If the Respondent does not make modifications acceptable to KDHE, KDHE, at its discretion, may make such modifications as it determines to be necessary. All costs incurred by KDHE in making such modifications shall be charged to the Respondent as oversight costs.
26. **Inadequate Performance – Notice of Disapproval.** In the event that KDHE finds that a document submitted or work performed pursuant to this Order is inadequate, it will issue a Notice of Disapproval to the Respondent. The Notice of Disapproval delineates the

deficiencies in the document or work, describes the necessary modifications to address the deficiencies and provides an expected timeframe to correct the deficiencies. Failure to revise, correct or otherwise respond to the Notice of Disapproval shall be deemed a violation of this Order.

27. **Work Takeover – Notice.** If Respondent fails to revise, correct or otherwise respond to KDHE’s Notice of Disapproval in accordance with the schedule specified in the Notice of Disapproval, or if KDHE determines that Respondent 1) has ceased implementation of any portion of the work, 2) is seriously or repeatedly deficient or late in its performance of the work, or 3) is implementing the work in a manner which may cause an endangerment to human health or the environment, KDHE at its discretion may assume or arrange for a contractor or contractors to assume the performance of all or any portions of the work as KDHE determines necessary. If KDHE determines that such a work takeover is necessary, it will send Respondent a Notice of Work Takeover specifying a date upon which KDHE may assume or arrange for a contractor or contractors to assume the performance of all or any portions of the work. In the event of work takeover, Respondent shall pay for all costs incurred by KDHE and any contractor who performs work pursuant to this paragraph.
28. **Task Specific Schedules.** All work plans required pursuant to this Order shall establish task specific dates and timeframes for related implementation, construction and reporting activities. Each schedule shall specifically include the Respondent’s proposed milestone dates for start and completion of implementation as well as construction activities and

submittal of a draft report. All requests for schedule extensions must be submitted in advance by Respondent to KDHE for approval.

29. **Kansas Licensure Requirement.** All work performed pursuant to this Order shall be under the direction and supervision of a professional engineer or geologist licensed in the State of Kansas with expertise in environmental site investigations and remediation. Within thirty (30) days of the effective date of this Order, Respondent shall notify KDHE of the name, title, license number and qualification of the engineer or geologist, and of any contractors or subcontractors and their personnel to be used in carrying out the terms of this Order. Respondent shall notify KDHE of any changes of name, title, license number and qualifications of the engineer, geologist, contractors, subcontractors and their personnel within thirty (30) days of the occurrence of such change.

REQUIRED TASKS

30. **IM Work Plan/Design and IM Schedule.**
- a. **Notice of Interim Measures.** If interim measures are required by KDHE, Respondent will be sent a Notice of Interim Measures advising Respondent that a draft IM Work Plan/Design and IM Schedule, consistent with the IM SOW (Exhibit 2A), must be submitted.
 - b. **Submission of Draft IM Work Plan/Design and IM Schedule.** Respondent shall submit a draft IM Work Plan/Design and IM Schedule which is consistent with the IM SOW (Exhibit 2A). KDHE will review and provide comments on the draft IM Work Plan/Design.

- c. Submission of Final IM Work Plan/Design and IM Schedule. Respondent shall submit for final approval, a revised IM Work Plan/Design that addresses KDHE's comments. Upon KDHE approval, the IM Work Plan/Design and IM Schedule shall become incorporated into this Order and a part hereof as Exhibits 3A and 4A, respectively.
 - d. Implementation. Respondent shall implement the tasks detailed in the IM Work Plan/Design and IM Schedule in accordance with the KDHE-approved IM Schedule, Exhibit 4A.
31. **CI/CAS Work Plan and CI/CAS Schedule.**
- a. Submission of Draft CI/CAS Work Plan and CI/CAS Schedule. Respondent shall submit a draft CI/CAS Work Plan and CI/CAS Schedule for KDHE approval which is consistent with the CI/CAS SOW (Exhibit 2B). KDHE will provide comments on the draft CI/CAS Work Plan and CI/CAS Schedule.
 - b. Submission of Final CI/CAS Work Plan and CI/CAS Schedule. Respondent shall revise the CI/CAS Work Plan and CI/CAS Schedule in accordance with KDHE's comments and submit it to KDHE for final approval. Upon KDHE approval, the CI/CAS Work Plan and CI/CAS Schedule shall become incorporated by reference into this Order as Exhibits 3B and 4B, respectively.
 - c. Implementation. Respondent shall implement the tasks detailed in the CI/CAS Work Plan/Design and CI/CAS Schedule in accordance with the KDHE-approved CI/CAS Schedule, Exhibit 4B.

32. **Issuance of Corrective Action Decision.** Following submission and approval by KDHE of required documentation and completed tasks, as set forth in the CI/CAS Work Plan, KDHE will draft and issue for public comment a Corrective Action Decision (CAD). Once final, the CAD shall become incorporated by reference into this Order as Exhibit 5.
33. **CAP/CA Work Plan and CAP/CA Schedule.**
- a. Submission of Draft CAP/CA Work Plan and CAP/CA Schedule. Respondent shall submit for KDHE approval a draft CAP/CA Work Plan and CAP/CA Schedule which is consistent with the CAD and the CAP/CA SOW (Exhibit 3C). The draft CAP/CA Work Plan and CAP/CA Schedule shall facilitate, to the extent possible, commencement of substantial continuous physical on-site corrective action within 12 months of issuance of the CAD. KDHE will provide comments on the draft CAP/CA Work Plan.
 - b. Submission of Final CAP/CA Work Plan and CAP/CA Schedule. Respondent shall submit for final approval a revised Work Plan that addresses KDHE's comments. Upon KDHE approval, the CAP/CA Work Plan and CAP/CA Schedule shall become incorporated by reference into this Order as Exhibits 3C and 4C, respectively.
 - c. Implementation. Respondent shall implement the tasks detailed in the CAP/CA Work Plan/Design and CAP/CA Schedule in accordance with the KDHE-approved CAP/CA Schedule, Exhibit 4C.
34. **Additional Tasks May Be Required.** KDHE, in conducting its oversight activities, may

determine that tasks may be required that are in addition to those specified in the approved IM, CI/CAS or CAP/CA work plans or associated documents/reports. If such tasks are required, they shall be completed as specified by KDHE and within reasonable time frames established by KDHE.

35. **Wells Required by Order.** Any wells installed on property that is owned by the Respondent for the purposes of this Order shall be deemed the property of Respondent. For any well installed by KDHE for investigation purposes prior to the effective date of this Order, Respondent shall propose in the draft CI/CAS Work Plan which of those wells will be retained for purposes of this Order. The wells retained, upon KDHE approval, shall become the property of Respondent. If any wells are installed on property not owned by Respondent, Respondent shall be responsible for such wells subject to obtaining access to the property and in accord with the provisions of this Order. Prior to termination of this Order, upon approval of KDHE, all wells for which Respondent is responsible shall be closed in compliance with KDHE regulations. Written notice shall be provided to the KDHE project coordinator as set forth in this Order unless otherwise approved by KDHE.
36. **Sample Collection.** At the request of KDHE, Respondent shall provide or allow KDHE or its authorized representatives to take split samples of all samples collected by Respondent pursuant to this Order. Similarly, at the request of Respondent, KDHE shall allow Respondent or its authorized representatives to take split or duplicate samples of all samples collected by KDHE under this Order. KDHE shall notify Respondent at least

seven (7) days before conducting any sampling under this Order, provided, however, that if seven (7) days notice of sample collection activity is not possible, KDHE and Respondent shall give such advance notice to enable each party to have a representative present during said sample collection activity.

37. Quality Assurance.

- a. All samples analyzed pursuant to this Order shall be analyzed by a KDHE-approved laboratory using KDHE-approved laboratory methodologies.
- b. All sample collection and analysis shall be performed in compliance with the approved work plan(s), including scheduling of analyses, documentation of sample collection, handling and analysis.
- c. Laboratory analytical report forms shall be submitted to KDHE for all analytical work performed pursuant to this Order. Any deviation from the procedures and methods set forth in these documents must be approved by KDHE prior to use. Respondent shall notify KDHE within five (5) working days of notice or knowledge of a potential deviation from prescribed procedures or methods. Such notice shall provide information as to the nature of the deviation, if known, and outline a proposed investigation to determine whether the sample or results are representative or should not be considered valid. If the results cannot be validated by evaluation of the quality assurance/quality control procedures, historical data and/or laboratory protocol, Respondent will resample if directed to do so by KDHE. Respondent shall notify KDHE at least seven (7) days before conducting

re-sampling.

- d. Respondent shall use the quality assurance, quality control, and chain of custody procedures specified in the quality assurance project plans which are part of the work plan(s), for all sample collection and analysis performed pursuant to this Order, unless otherwise agreed to by KDHE.
- e. All contracts for field work shall provide that KDHE representatives are allowed access, for auditing and evaluation purposes, at reasonable times upon reasonable request, to all personnel utilized by Respondent for sample collection and analysis and other field work. Upon request by KDHE, the laboratories shall perform analysis of a reasonable number of known samples provided by KDHE to demonstrate the quality of the analytical data.

38. **Data/Document Availability.** Respondent shall make available to KDHE all results of sampling or tests, or other data generated by or on its behalf with respect to the implementation of this Order. Respondent shall report the results of such sampling or testing, or other data in accordance with the task specific work plans and schedules identified in this Order or as otherwise directed by KDHE. Upon completion of quality assurance and quality control assessment of the data, KDHE shall make available to Respondent results of sampling and tests, and other data obtained relative to this Order, unless it is otherwise prohibited by law.

39. **Progress Reporting.**

- a. Respondent shall provide KDHE with written progress reports, in accordance

with the Project Deliverable and Milestone Schedule (Exhibit 4), commencing from the effective date of this Order and continuing until termination of this Order. At a minimum, these progress reports shall:

- i. Describe the actions, progress and status of projects which have been taken toward achieving compliance with this Order, as well as the actions which are scheduled for the next quarter;
 - ii. Identify any requirements under this Order that were not timely completed and any problem areas and anticipated problem areas in complying with this Order;
 - iii. Include all results of sampling, tests, data, field notes, and conclusions drawn from data generated pursuant to the work plan(s); and
 - iv. Provide updated schedule(s) as requested by, and subject to, KDHE approval.
- b. The KDHE project coordinator may direct the Respondent to submit monitoring reports separate from or combined with quarterly progress reports.

40. Access.

- a. KDHE and any of its agents or contractors shall be allowed and authorized by Respondent to enter and freely move about all property at the Site for the purpose, among other things, of interviewing site personnel and contractors; inspecting records, operating logs, and contracts related to the activities set out in the work plan(s); reviewing the progress of Respondent in carrying out the terms of this

Order; conducting such sampling and tests as KDHE deems necessary; using a camera, sound recording, or other documentary type equipment; and verifying the reports and data submitted to KDHE by Respondent. Respondent shall permit such persons to inspect and copy all records, files, photographs, documents, and other writings, including all sampling and monitoring data that pertain to work undertaken pursuant to this Order. Respondent shall not be responsible for any injury or damage to persons or property caused by the negligent or willful acts or omissions of KDHE employees, agents, contractors or any other person acting on KDHE's behalf in carrying out any activities pursuant to the terms of this Order. KDHE employees, agents, contractors or any other person acting on KDHE's behalf shall comply fully with Respondent's safety protocol while on Respondent's property.

- b. To the extent that work required by the Work Plan(s) must be done on property not owned or controlled by Respondent, Respondent shall use its best efforts to obtain access agreements from the present owner(s) of such property within thirty (30) days of the date the need for access is known. Best efforts include, but are not limited to, reasonable payment of monies to the property owner. Any such access agreement shall be incorporated by reference into this Order. In the event that agreements for site access are not obtained within thirty (30) days of the date the need for access is known, Respondent shall notify KDHE regarding both the lack of and its failure to obtain such agreements within seven (7) days thereafter.

In the event that KDHE obtains access for Respondent, all costs incurred by KDHE shall be reimbursed by Respondent. Upon KDHE's obtaining access for Respondent, Respondent shall undertake approved work on such property. KDHE shall not be responsible for any injury or damage to persons or property caused by the negligent or willful acts or omissions of Respondent, its officers, employees, agents, successors, assigns, contractors or any other person acting on Respondent's behalf in carrying out any activities pursuant to the terms of this Order.

41. **Field Activities Notification.** Respondent shall provide KDHE at least seven (7) days advance written notification before conducting any investigation and/or remediation, or other ancillary activities related to such measures, whether conducted pursuant to the Order or to a request, requirement or order from any other federal, state or local regulatory authority where the resultant data or information would be used in part or in full to satisfy requirements of the Order. Failure to provide advance written notification may result in KDHE rejection of the data obtained or work conducted by the Respondent. Advance written notification is to be accomplished by completing the KDHE-BER Remedial Section Field Activities Notification Form on the KDHE website for each activity as distinguished by separate field mobilizations. If website access is not available, Respondent may provide required written notification by completing the form (Exhibit 6) and submitting to the designated KDHE project coordinator.
42. **Record Preservation.** Respondent shall preserve, during the pendency of this Order and

for a minimum of six (6) years after its termination, all records and documents which have not previously been provided to KDHE in its possession or in the possession of Respondent's employees, agents, consultants or contractors which relate in any way to this Order or to hazardous substance and hazardous waste management and disposal at the Site. During this period, Respondent shall make such records available to KDHE upon request for inspection or KDHE's retention, or shall provide copies of any such records to KDHE.

ADDITIONAL PROVISIONS

43. **Other Claims and Parties.** Nothing in this Order shall constitute or be construed as a release for any claim, cause of action or demand in law or equity against any person, firm, partnership, or corporation not named herein for any liability arising out of or relating in any way to the generation, storage, treatment, handling, transportation, release, or disposal of any hazardous substances, hazardous wastes, pollutants, or contaminants found at, taken to, or taken from the facility or the Site.
44. **Other Applicable Laws.** All actions required to be taken pursuant to this Order shall be undertaken in accordance with all applicable local, state and federal laws and regulations.
45. **Project Coordinator.** Respondent shall, upon receipt of this Order, designate a project coordinator who shall be responsible for overseeing the implementation of this Order and shall provide said coordinator's name and contact information to KDHE. The KDHE project coordinator identified below will be KDHE's designated representative. To the maximum extent possible, all communications between Respondent and KDHE and all

documents, reports, approvals, and other correspondence concerning the activities performed pursuant to the terms and conditions of this Order, shall be directed through the project coordinators. The parties agree to provide at least seven (7) days written notice prior to changing project coordinators. The absence of the KDHE project coordinator from the Site shall not be cause for the stoppage of work.

46. **Notification.** Unless otherwise specified, reports, notices or other submissions required under this Order shall be sent to the KDHE project coordinator:

Steven Bryant
Bureau of Environmental Remediation/KDHE
Curtis State Office Building
1000 SW Jackson, Suite 410
Topeka, Kansas 66612-1367
Office: 785-281-3066

47. **Service of Process, Return Receipt Delivery.** The Parties may be served personally or by return receipt delivery to the addresses provided below. "Return Receipt Delivery" shall include service effected by United States Postal Service certified mail or priority mail, or commercial courier services, evidenced by a written or electronic receipt showing to whom it was delivered, the address where delivered, date of delivery, and the person or entity effecting delivery.

- a. For the State of Kansas:

Office of Legal Services
1000 SW Jackson, Suite 560
Topeka, Kansas 66612-1368
785-296-5334

A copy of all documents served shall be sent to the KDHE project coordinator, also.

- b. For the Respondent:

The Corporation Company
515 South Kansas Avenue
Topeka, Kansas 66603

48. **Reimbursement of Costs.**

- a. Within thirty (30) days of KDHE providing Respondent with an itemized invoice for past costs, Respondent shall submit to KDHE the amount \$4,035.91 which constitutes reimbursement for past costs incurred by KDHE in connection with this Site through September 5, 2009.
- b. Costs incurred by KDHE from September 6, 2009 until the end of the next calendar quarter shall be billed forty-five (45) days following the end of the calendar quarter. Thereafter, KDHE shall bill Respondent for all costs incurred by KDHE during each calendar quarter forty-five (45) days following the end of the calendar quarter. Payment of the invoice is due upon receipt. Respondent shall remit a check for the full amount of those costs made payable to the Kansas Department of Health and Environment. Failure to pay the total balance due within thirty (30) days of issuance of the invoice shall be considered a violation of the Order. The form and substance of such invoices shall be substantially similar to the exemplar invoice found in Exhibit 7.
- c. Payment for all costs assessed to Respondent shall be made to:

Kansas Department of Health and Environment
Bureau of Environmental Remediation

Attn: Administration
1000 SW Jackson Street, Suite 410
Topeka, Kansas 66612-1367

A copy of the check and transmittal letter shall be sent to the KDHE project coordinator specified herein.

49. **Mutual Agreement.** Each Party acknowledges that it has read all of the terms of this Order, has had an opportunity to consult with counsel of its own choosing or voluntarily waived such right and enters into this Order voluntarily and without duress.
50. **Waiver of Appeal and Review Rights.** Parties acknowledge that this Order, upon execution by the Secretary of KDHE, shall be a final agency order. Respondent voluntarily and knowingly waives any and all rights conferred upon it by the Kansas Administrative Procedure Act (KAPA), K.S.A. 77-501, *et seq.* Respondent voluntarily and knowingly waives the right to an appeal and review of this Order and matters leading up to the execution of this Order under the Kansas Act for Judicial Review and Civil Enforcement of Agency Action, K.S.A. 77-601 *et seq.* KAPA authorizes KDHE to enter into an informal settlement of this matter without the necessity of proceeding to a formal hearing, K.S.A. 77-505.
51. **Joint Drafting.** This Order shall be deemed to have been jointly drafted by the Parties, and in construing and interpreting this Order, no provision shall be construed and interpreted for or against either of the Parties because such provision or any other provision of the Order as a whole is purportedly prepared or requested by such Party.

52. **Choice of Law, Jurisdiction and Venue.** The laws of the State of Kansas shall govern the terms of this Order. In any judicial action to enforce provisions of this Order, jurisdiction and venue shall be proper in the District Court of Shawnee County, Kansas.
53. **Entire Agreement.** This Order contains the entire agreement between the Parties, and may only be modified in writing signed by the Parties or their duly appointed agents. All prior agreements and understandings between the Parties concerning the subject matter hereof are superseded by the terms of this Order.
54. **Successors and Assigns.** This Order shall be binding on and inure to the benefit of the Parties and their respective agents, employees, affiliates, successors and assigns. No change in the ownership or corporate status of Respondent shall alter its responsibilities under this Order. Successors or assigns, if required by KDHE, shall execute an amendment or other writing attesting to the assumption of the terms, conditions and performance of the Order. An assignment shall not relieve the Respondent from the obligations to carry out the terms and conditions of this Order in the event the assignee fails to do so.
55. **Authority.** Each Party has full knowledge of and has consented to this Order, and represents and warrants that each person who executes this Order on its behalf is duly authorized to execute this Order on behalf of the respective Party and legally bind the Party represented to this Order.

56. **Amendment.** This Order may be amended by mutual consent of KDHE and Respondent, and any such amendment shall be in writing.
57. **Effective Date.** This Order and any amendment thereto shall become effective as of the date the Order or any amendment thereto is signed by the Secretary of KDHE.
58. **Termination.** The provisions of this Order shall terminate upon Respondent's receipt of written notice from KDHE that Respondent has demonstrated that the terms of this Order, including any additional tasks which KDHE has determined to be necessary, have been satisfactorily completed.

[REMAINDER OF PAGE INTENTIONALLY BLANK]

IN WITNESS WHEREOF, the Parties have affixed their signatures below:

CATERPILLAR WORK TOOLS, INC.

KANSAS DEPARTMENT OF
HEALTH AND ENVIRONMENT

By:

By:

Robert C Hunter
Signature
ROBERT C HUNTER
Name (Typed or Printed)
OPERATIONS MANAGER
Title
4-21-10
Date

Roderick L. Bremby
Roderick L. Bremby
Secretary
5/7/2010
Date

[SIGNATURE PAGE OF CONSENT AGREEMENT AND FINAL ORDER]

**STATE OF KANSAS
DEPARTMENT OF HEALTH AND ENVIRONMENT**

In the Matter of:

Environmental Contamination at the

Caterpillar Work Tools Site
600 Balderson Boulevard
Wamego, Kansas

Caterpillar Work Tools, Inc.,
Respondent.

Case No. 09-E-0147-BER

CERTIFICATE OF MAILING

I hereby certify that on the 10th day of May, 2010, I caused a true and correct copy of the foregoing instrument to be deposited in the United States Mail, First Class, postage prepaid and addressed as follows:

Robert J. Lambrechts, Esq
Lathrop & Gage, LLP
Building 82, Suite 1000
10851 Mastin Boulevard
Overland Park, Kansas 66210-1669

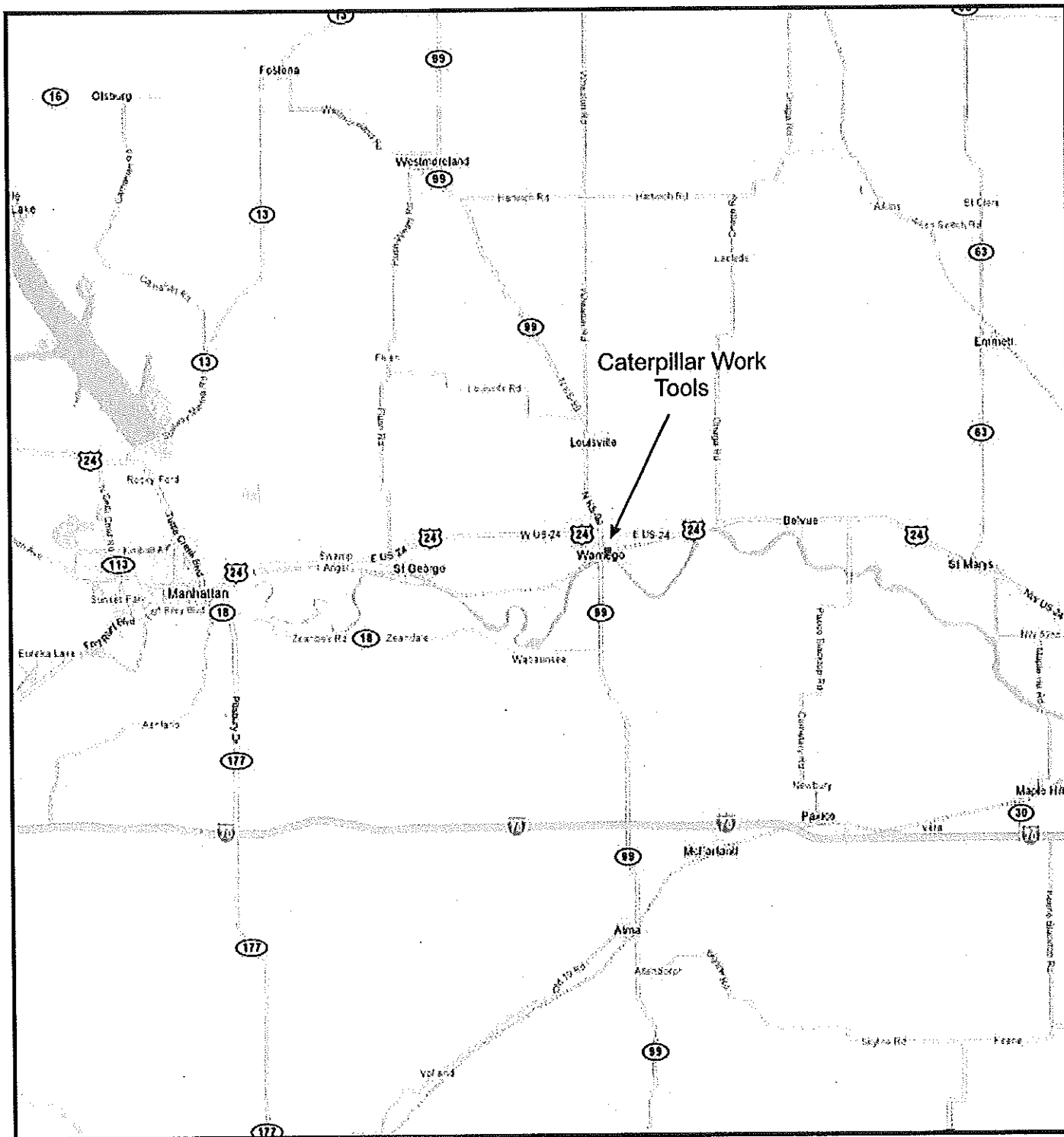

KDHE Staff Member

In the Matter of ...
Caterpillar Work Tools, Inc.
BER File No. C4-075-72373
Consent Agreement and Final Order
Case No. 09-E-0147-BER

LIST OF EXHIBITS

LOCATION MAPS AND/OR PHOTOGRAPHS	---
FACILITY LOCATION MAP	1A
FACILITY LAYOUT	1B
SCOPE(S) OF WORK	---
IM SCOPE OF WORK	2A
CI/CAS SCOPE OF WORK	2B
CAP/CA SCOPE OF WORK	2C
WORK PLAN(S) APPROVED BY KDHE¹	---
IM WORK PLAN/DESIGN	3A
CI/CAS WORK PLAN	3B
CAP/CA WORK PLAN	3C
PROJECT DELIVERABLE AND MILESTONE SCHEDULE(S)	4
IM SCHEDULE ¹	4A
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CORRECTIVE ACTION DECISION	5
FIELD ACTIVITIES NOTIFICATION FORM	6
FORM OF INVOICE FOR PAST COSTS AND OVERSIGHT COSTS	7

¹ To be attached as exhibits upon KDHE approval.



Map prepared by KDHE



Scale: 0 2 4
Scale in Miles

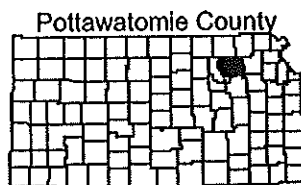
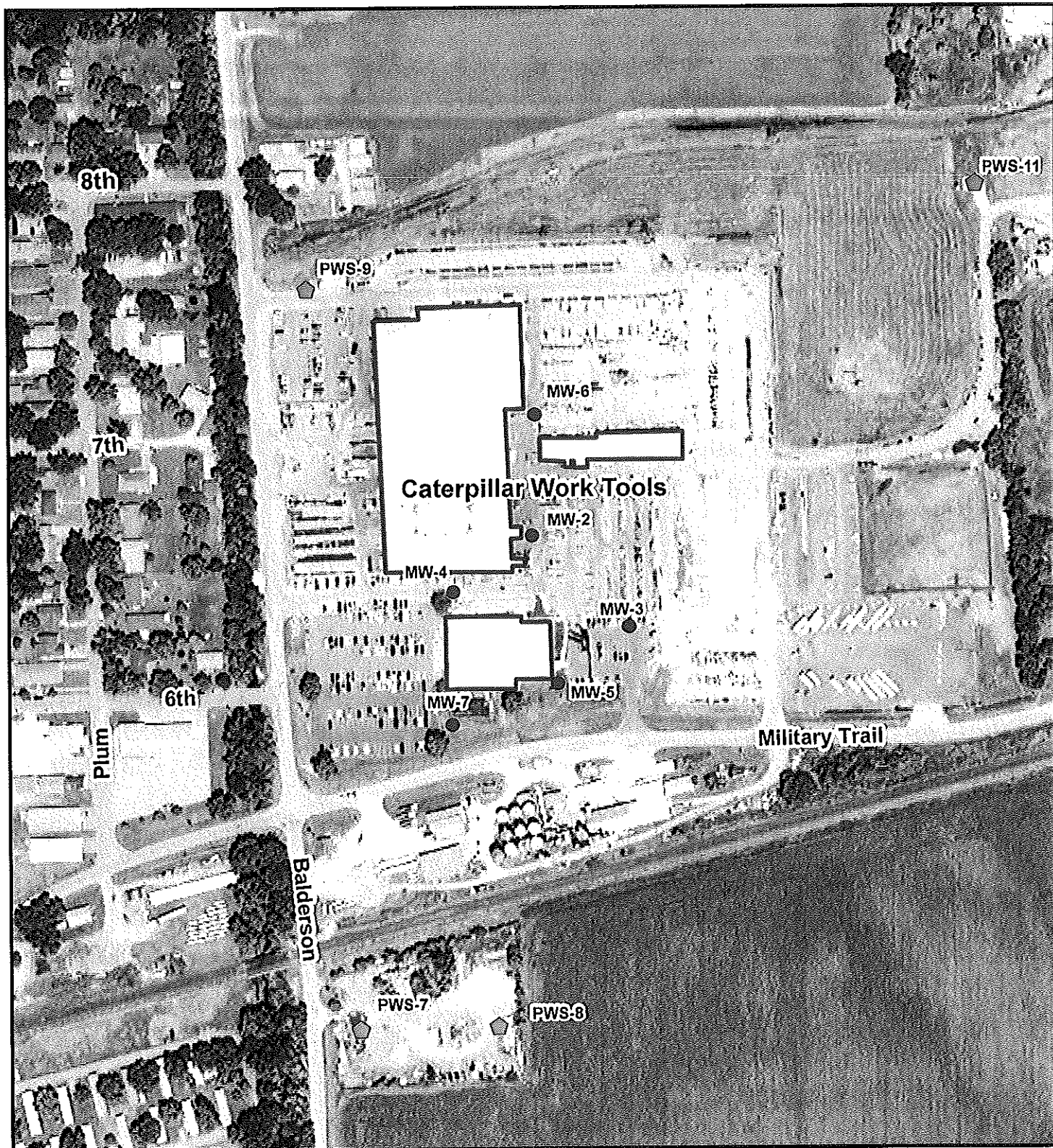


EXHIBIT 1A

Facility Location Map
Caterpillar Work Tools
Wamego, Kansas



0 100 200 400
Feet



Map Prepared by KDHE

LEGEND

- Public Water Supply Well
- Monitoring Well

EXHIBIT 1B

Facility Layout
Caterpillar Work Tools
Wamego, Kansas

BER POLICY # BER-RS-029 (Revised)
DATE: October 2006
PAGES: 8

BUREAU OF ENVIRONMENTAL REMEDIATION/REMEDIAL SECTION
POLICY and SCOPE OF WORK
INTERIM MEASURES

INTRODUCTION

This Kansas Department of Health and Environment—Bureau of Environmental Remediation (KDHE—BER) Remedial Section policy and scope of work establishes a management strategy and general framework for implementation of an interim measure at a given site. There are various programs within the Remedial Section responsible for direction and/or oversight of investigation and cleanup of sites throughout Kansas. This policy and scope of work has been developed to promote consistency across Remedial Section programs for which interim measure implementation may be appropriate. The expectation is that each program, through whatever agreement or enforcement mechanism might be available (e.g., consent agreement, consent order, voluntary agreement, etc.), will contemplate the need for possible interim measures at a site and include boiler-plate language to require interim measure implementation as determined necessary by KDHE in consultation with the responsible or voluntary party (hereinafter referred to as the implementing party).

There is a presumption that implementation of any interim measure will be accomplished in a cooperative, voluntary manner with the implementing party. However, under certain circumstances (e.g., implementing party hesitation or recalcitrance in an emergency situation), the KDHE—BER project manager may recommend mandatory interim measure implementation in order to protect human health and the environment from an actual or imminent threat from hazardous substances, pollutants or contaminants. Although this policy and scope of work are intended to allow flexibility in management of site risks, the need for adherence to this policy and scope of work is critical for the purpose of anticipating possible interim measures and ensuring early action is taken in as expeditious a manner as possible where deemed appropriate.

For more complex interim measures implemented under the auspices of the KDHE—BER Remedial Section, or as requested by the implementing party, a goal will be to achieve general consistency with the National Oil and Hazardous Substances Contingency Plan (NCP) to the extent practicable. Individual programs within the KDHE—BER Remedial Section may have other unique or possibly less rigorous requirements associated with an interim measure. Therefore, it is incumbent upon each KDHE—BER project manager to have a clear understanding of all program-specific guidelines, policies and regulatory requirements that may have bearing on interim measure implementation at a particular site. On a final introductory note, this policy and scope of work was written using more familiar, universally recognized terminology from the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) realm and is not intended to supplant other analogous Remedial Section program elements.

DEFINITION AND APPLICABILITY

In general, an interim measure is defined as a set of short-term actions or activities taken to quickly prevent, mitigate or remedy unacceptable risk(s) posed to human health and the environment by an actual or potential release of a hazardous substance, pollutant or contaminant. An interim measure is generally a less complex type of remedial response, requiring minimal design effort, and somewhat presumptive in nature, thereby negating the need for rigorous treatability study or pilot testing. An interim measure may be warranted in either an emergency (immediate response) or non-emergency situation to manage the source(s) of contamination, control the exposure pathway(s) and/or control the hazard(s) to human and environmental receptors. An interim measure may be conducted without extensive investigation at any time during the investigation or remedial alternatives evaluation process with approval by the KDHE—BER project manager. Minimally, implementation of an interim measure must be conducted in a manner consistent with the concept of best management practices (BMPs) wherein overall improvement in site conditions is achieved. Depending upon site-specific circumstances or conditions, one or more interim measures may be determined necessary.

Factors to be considered in assessing the need for interim measure implementation include the following:

- Actual or imminent threat of exposure to hazardous substances, pollutants or contaminants by nearby human populations, ecological receptors or ecosystem food web;
- Actual or imminent threat of contamination of drinking water supplies or sensitive ecosystems;
- Hazardous substances or wastes in drums, barrels, tanks, piles or other bulk storage containers that may pose an imminent threat of release;
- High levels of hazardous substances, pollutants or contaminants in predominantly surface soils that may readily migrate;
- Weather conditions that may cause hazardous substances, pollutants or contaminants to migrate or be released;
- Threat of fire or explosion; and,
- Other situations or factors that may pose imminent threats to public health or welfare or the environment.

In order to assess the relative magnitude of an actual or imminent threat to human health and the environment and the need for possible interim measure implementation, the KDHE—BER project manager must consider all applicable federal and state regulatory standards or threshold screening levels for the media of interest including, but not limited to, the following:

- U.S. Environmental Protection Agency (EPA) maximum contaminant levels (MCLs);
- U.S. EPA numeric removal action levels (RALs) for contaminated drinking water sites;
- Tier 2 screening levels as provided in the Risk-Based Standards for Kansas RSK Manual – 3rd Version (or as further revised); and,
- Kansas surface water quality standards.

An interim measure would be expected to comply with all applicable or relevant and appropriate requirements (ARARs) and to be considered (TBC) guidance identified to that point in time consistent with BER Policy #BER-RS-015.

If gross measurable or visible contamination to the environment is evident (e.g., catastrophic release of separate phase liquid waste), this may serve as a threshold criterion for interim measure implementation as required by the KDHE—BER project manager.

The intent in allowing interim measure implementation is not to circumvent the more linear investigation, remedial alternatives evaluation, remedial design and remedial action processes established by the various Remedial Section programs. However, if site characteristics suggest the site may be amenable to interim measures designed to control or abate imminent threats or prevent or minimize the further spread of contamination, the KDHE—BER project manager may consider the appropriateness of interim measure implementation as an element of the final remedy.

GOALS/OBJECTIVES AND TIMING

The ultimate goal of an interim measure is to control or abate threats to human health and/or the environment from releases of or exposures to hazardous substances, pollutants or contaminants, and to prevent or minimize the further spread of contamination while long-term remedies are evaluated. An interim measure is intended to provide a partial, albeit more immediate, solution while being consistent with the final site remedy. Implementation of an interim measure often results in significant overall reduction in cost and scope of the final remedy. In some instances, the interim measure may prove to be all that is necessary to achieve site remedial goals should all significant threats to human health and the environment be mitigated or eliminated. In terms of timing, an interim measure is generally conducted before the investigation and evaluation of remedial alternatives are completed.

PROCESS ELEMENTS AND EXAMPLES

Again, an interim measure is intended to be a generally less complex type of remedial response requiring only focused characterization, as necessary; “back of the envelope” target receptor identification and exposure pathway analysis; focused interim measure identification/selection; and, minimal design effort with emphasis on “off-the-shelf” remedial system components. The KDHE—BER project manager should limit the scope and duration of treatability study or pilot testing activities. A typical interim measure may include, but is not limited to, one or more of the following:

- Removal of abandoned drums or other waste containers;
- Excavation of contaminated soil “hot spots”;

- Hydraulic control of groundwater contaminant plume;
- Removal of non-aqueous phase liquid (NAPL) from groundwater;
- Provision of alternate water supply or point-of-use treatment;
- Installation of indoor air vapor mitigation systems;
- Construction of perimeter fencing to limit uncontrolled site access;
- Construction of surface (e.g., dike or berm for runoff/runoff control) or subsurface barriers (e.g., French drain or interceptor trench);
- Receptor point monitoring (e.g., periodic residential well or public water supply sampling)

PLAN/DESIGN AND REPORTING REQUIREMENTS

Whether conducted in an emergency or non-emergency situation, the decision process leading to the selection and implementation of an interim measure, and the resultant action itself, must be appropriately documented. Before an emergency interim measure is implemented, the KDHE—BER project manager must prepare a brief proposed action memorandum to the file (with appropriate chain-of-command sign-off through the Remedial Section Chief). Essentially, the proposed action memorandum is to provide a description, implementation schedule and justification for the proposed emergency interim measure. Upon completion of the emergency interim measure, the KDHE—BER project manager must prepare a summary final action memorandum to the file in order to document the emergency action taken while noting any deviations from the original proposal. If the emergency interim action is performed by an implementing party, the KDHE—BER project manager may allow the implementing party to generate the requisite “before and after” documentation subject to KDHE—BER review and approval. However, given an emergency interim measure designation, the KDHE—BER project manager must recognize the need to complete the review and approval process within a more expedited timeframe (e.g., seven days).

For all non-emergency interim measures, an Interim Measure Work Plan/Design must be submitted for KDHE review and approval. This Work Plan/Design may vary in detail depending on the requirements of the participating Remedial Section program. The Work Plan/Design will include, at a minimum, a summary of available site information and available investigation results; a detailed description of the proposed interim measure; justification and benefit of interim measure implementation including interim remedial action objectives; depending on the complexity of the interim measure, complete design specifications and drawing/schematics, including any relevant figures and/or site system engineering layouts (e.g., process flow diagram, piping and instrumentation diagram, etc.) and engineering design basis; cost estimate; and, a detailed working schedule presented graphically in the form of a milestone chart (e.g., Gantt chart) to show the duration and interdependencies of the various activities. Depending on the complexity of the proposed interim measure and requirements of the specific Remedial Section program, the Interim Measure Work Plan/Design may need to address operation and maintenance (O&M) as well as performance monitoring needs. Please refer to BER Policy #BER-RS-023 (Section 1.4), for a discussion of typical performance monitoring elements, and to Attachment A, as an example outline of an Interim Measure Work Plan/Design package.

Attachment A is not intended to be prescriptive in nature, rather a model from which to work. The exact elements and content of any Interim Measure Work Plan/Design package will be determined by the KDHE—BER project manager dependent upon the overall complexity of the anticipated interim measure while being consistent with the specific requirements of the respective Remedial Section program.

Once the non-emergency interim measure is determined by the KDHE—BER project manager to be complete (e.g., alternate water supply provided) or fully operational and functional (e.g., soil vapor extraction system installed in accordance with the KDHE-approved design and achieves performance expectations), the implementing party must submit an Interim Measure Report documenting the nature of the threat, the action(s) taken and the success in mitigating the threat. The KDHE—BER project manager will determine the appropriate form or content of the Interim Measure Report. If the interim measure continues as an on-going effort (e.g., subsurface interceptor trench operation), then the implementing party must submit a monitoring/progress report at a frequency specified in the KDHE—approved Interim Measure Performance Monitoring Plan (e.g., quarterly).

PUBLIC INVOLVEMENT

Given that interim measure implementation will normally precede the final remedy and any associated site decision documents, the KDHE—BER project manager should prepare a fact sheet describing the interim measure and distribute to interested parties in the immediate site vicinity. This is not for the intent of soliciting public comment on a proposed interim measure, but rather to keep local government officials and area residents informed as to site activities. Depending on the site-related complexities or sensitivities, conduct of a public availability session may be warranted. Public involvement requirements may vary for the various Remedial Section programs.

REFERENCES

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. § 9601 et seq. as amended by the Superfund Amendments and Reauthorization Act)

Resource Conservation and Recovery Act of 1976 (42 U.S.C. § 6901 et seq. as amended by the Hazardous and Solid Waste Amendments of 1984 and 1986, the Federal Facilities Compliance Act of 1992 and the Land Disposal Program Flexibility Act of 1996)

National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR 300)

U.S. EPA National Primary Drinking Water Regulations and Implementation (40 C.F.R. 141 and 142) (i.e., establishment of MCLs)

U.S. EPA OSWER Directive 9360.1-01 (October 1993) (i.e., establishment of numeric removal

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action levels (RALs) for contaminated drinking water sites) as supplemented by November 10, 1998 U.S. EPA Memorandum entitled "Retransmittal of latest Superfund Removal Action Levels"

KDHE—BER *Risk-Based Standards for Kansas RSK Manual – 3rd Version* (March 1, 2003)

KDHE—BER *Voluntary Cleanup and Property Redevelopment Program Manual* (May 20, 2005) (includes VCPRP statutes and regulations)

Kansas Water Pollution Control Regulations, K.A.R. 28-16 (i.e. establishment of surface water quality standards)

Attachment A
Interim Measure Work Plan/Design Package
Example Outline

- I. Site Background
- II. Previous Investigations and Summary of Results
- III. Description of Proposed Interim Measure
- IV. Interim Remedial Action Objectives
- V. Interim Measure Design
 - a. Design Basis
 - b. Design Specifications
 - c. Drawings/Schematics
 - d. Cost Estimate
 - e. Detailed Working Schedule (to be periodically updated)

APPENDICES

- Appendix A – Data Acquisition Plan (optional)
- Appendix B – Quality Assurance Project Plan (or reference existing document)
- Appendix C – Treatability Study Testing Plan (optional)
- Appendix D – Health and Safety Plan (or reference existing document)
- Appendix E – Operations and Maintenance Plan

**BUREAU OF ENVIRONMENTAL REMEDIATION/REMEDIAL SECTION
GUIDANCE
SCOPE OF WORK (SOW)
FOR A
COMPREHENSIVE INVESTIGATION (CI)/CORRECTIVE
ACTION STUDY (CAS)**

BER POLICY # BER-RS-20

DATE: 1991

Revised: May 23, 1996

Revised: March 29, 2001

Revised: December 29, 2005

PAGES: 6

The Comprehensive Investigation and Corrective Action Study (CI/CAS) Scope of Work (SOW) provides an outline that should be employed to characterize the nature and extent of risks posed by contaminated sites and to evaluate potential remedial options. This SOW is a flexible process that can be tailored to specific characteristics and needs of individual sites.

1.0 COMPREHENSIVE INVESTIGATION

The goals of the CI are to determine the nature and extent of environmental contamination at the site, assess potential human health and environmental risks posed by the site, and develop a preliminary list of remedial action objectives and corresponding potential corrective action alternatives that will be evaluated in detail during the subsequent CAS process. The primary objectives of the CI are to:

- 1) Identify and characterize all potential source areas, including identifying all chemicals of concern, determining the mechanisms of release, estimating the quantities of release, and determining whether these releases are ongoing or inactive;
- 2) Delineate and characterize the full lateral and vertical extent of contamination for each of the impacted environmental media at the site;
- 3) Characterize the environmental setting, including regional and local geology, hydrogeology, and hydrology; particularly as those site physical characteristics may pertain to contaminant transport and fate mechanisms for the site or may affect the evaluation, selection and design of cleanup alternatives for the site;
- 4) Characterize the physicochemical properties of the contaminants, their mobility and persistence in the environment, and their important fate and transport mechanisms as they relate to the site physical characteristics;
- 5) Identify human and environmental targets that may be threatened or affected by the site;

- 6) Perform a quantitative human health and/or ecological risk assessment to determine whether and the extent to which the site requires remediation;
- 7) Perform bench or pilot treatability tests as necessary to support the development of potential corrective action alternatives; and,
- 8) Develop a preliminary list of remedial action objectives and corresponding potential corrective action alternatives.

This SOW outlines activities necessary to satisfy these objectives. A CI Work Plan describing in detail all activities proposed to satisfy the CI objectives shall be developed and submitted to the Kansas Department of Health and Environment (KDHE) for approval. If sufficient information is available in advance of the CI to allow for evaluation of potential remedies, then preparation of a combination CI/CAS Work Plan may be appropriate to streamline the CI/CAS process. The CI Work Plan must include an implementation schedule defining the dates for initiating and completing the various tasks associated with this SOW and for submitting work plans and reports defined as deliverable documents within the Consent Order. KDHE suggests the detailed implementation schedule be presented graphically in the form of a milestone chart (e.g., Gantt or Pert chart) or critical path diagram. As necessary, the detailed implementation schedule must be updated and submitted to KDHE as part of the routine reporting requirements. In addition, the CI Work Plan must include the following site-specific supporting documents: 1) quality assurance project plan; 2) field sampling plan; and 3) health and safety plan. A quality assurance project plan describes the policy, organization, functional activities, and quality assurance and quality control protocols necessary to achieve the data quality objectives dictated by the intended use of the data. A field sampling plan provides the guidance for all field work by defining in detail the sampling and data-gathering methods to be used on a project. The field sampling plan should be written so that a field sampling team unfamiliar with the site would be able to gather the samples and field information required. A health and safety plan prepared to support the field effort must conform to the firm's or agency's health and safety program which must, in turn, be in compliance with requirements of the Occupational Safety and Health Administration.

The CI process shall, at a minimum, include the following elements:

1.1 HISTORICAL EVALUATION AND SITE DESCRIPTION

A description of the site location should be generated, including a legal description of the site, facility address, and facility layout, as appropriate. An ownership history for the source facility and the ownership status of other affected properties should be documented. A description of all past and present activities or operations conducted at the site must be included in the CI Report including: the nature of business operations conducted at the site, chemicals used at the facility, wastes generated by facility operations, chemical and waste disposal methods, and records or descriptions of all known spills or leaks. Environmental permits issued relative to past or present business operations should be identified. Descriptions of any previous environmental investigations conducted at the site and summaries of the significant findings of those investigations should be included. The historical evaluation and site description component of the Comprehensive Investigation may be excluded if a KDHE-approved Preliminary Investigation was conducted at the site or if sufficient background information about the site has been previously documented and submitted to KDHE.

1.2 STUDY AREA INVESTIGATION

A description of the physical characteristics of the study area must be provided including, but not

limited to: geology, soils, hydrogeology, surface water hydrology, and meteorology. Past and present land use on and adjacent to the site must be described. Current city and/or county land use zoning classifications that may affect any potential remedy for the site must be documented. The physical characteristics of the study area should be determined to the extent necessary to facilitate the evaluation of appropriate remedial responses.

1.3 SOURCE CHARACTERIZATION

A detailed description of all field activities completed to identify the source(s), extent, and release mechanisms for environmental contamination and the findings of those activities must be provided. This may include several components: review of facility records; personnel interviews; waste and/or soil sampling; equipment testing (tank, pipeline, or sewer line testing, etc.), geophysical surveys, aerial photograph review, and land elevation surveys, among others.

1.4 NATURE AND EXTENT CHARACTERIZATION

A study to determine the full horizontal and vertical extent of environmental contamination must be performed. Potential media to be investigated include surface and subsurface soils, ground water, surface water, sediment, air, and biota. An evaluation of the significant contaminant fate and transport mechanisms should be performed. This component of the CI may include monitoring well or piezometer installation, soil borings, soil or ground water probing, field and laboratory analyses, geophysical surveys, hydrogeological evaluations, surveying, computer modeling, and biota studies, among others. Analytical data should be collected of appropriate data quality and quantity to support the completion of a Risk Assessment, if one is to be performed, and to support the evaluation of potential remedial alternatives. All data should be validated at the appropriate field or laboratory quality control level to determine whether it is appropriate for its intended use.

1.5 RISK ASSESSMENT (Optional)

Information and environmental data collected and validated as representative of site conditions may be used to qualitatively or quantitatively describe the potential excess human health and/or ecological risk posed by the site in the absence of remediation. This Risk Assessment process is used to characterize the risk posed to human health or the environment by environmental conditions at a contaminated site. In lieu of performing a site-specific Risk Assessment to evaluate risk and arrive at cleanup goals for a site, the participating party may elect, with the concurrence of the KDHE project manager, to use the risk-based cleanup goals for soil and ground water under Tier 2 of the Risk-Based Standards for Kansas Manual (RSK Manual). If KDHE determines that the completion of a quantitative Risk Assessment is appropriate, the participating party may, at their option, perform such risk assessment for submittal to KDHE for approval. Prior to performing the risk assessment, the participating party must submit a baseline risk assessment work plan that, among other items, provides a site-specific exposure conceptual model, which either graphically illustrates or states the impacted media and all the primary and secondary exposure pathways, lists all contaminants of concern, standard exposure parameters, land use, methodologies for determining reasonable maximum exposure point concentrations, proxy determinations, and other statistical considerations. The quantitative baseline risk assessment should be performed in accordance with "Risk Assessment Guidance for Superfund" EPA/540/1-89/002 and other associated guidance such as "Dermal Exposure Factors Handbook" and OSWER Directive, "Standard Exposure Factors". The work plan must be approved by KDHE prior to commencing the

Baseline Risk Assessment. Alternatively, the participating party may elect to have KDHE's contractor perform the Risk Assessment at the party's expense. Coordination with KDHE is required throughout the risk characterization and cleanup goal determination process.

1.6 IDENTIFICATION OF CORRECTIVE ACTION ALTERNATIVES

Information and data generated during the CI, including the Risk Assessment, if performed, should be evaluated to develop a preliminary list of remedial action objectives and to identify applicable or relevant and appropriate cleanup standards or cleanup goals. In addition, an initial list of general response actions or potential corrective action alternatives to be evaluated in detail during the CAS should be developed.

1.7 PILOT TREATABILITY STUDIES/DATA GATHERING

To keep the CI/CAS process on schedule, it may be appropriate to identify and initiate any pilot testing necessary to evaluate corrective action alternatives early in the CI process. Treatability studies are conducted to provide sufficient data to allow treatment alternatives to be fully developed and evaluated during the CAS process and to support the subsequent remedial design of the corrective action alternative ultimately selected by KDHE. Treatability investigations also serve to reduce cost and performance uncertainties for treatment alternatives to acceptable levels to permit a more reliable remedy selection process. Examples of treatability data gathering activities that might be performed during the CI include aquifer pumping tests, soil vapor extraction pilot tests, or pilot-scale applications of innovative technologies to evaluate their applicability to site wastes. Pilot treatability studies and other treatability data gathering activities should be completed consistent with a KDHE-approved work plan.

1.8 CI REPORT

Upon completion of all CI activities necessary to achieve CI objectives, a CI Report must be submitted to KDHE, in a time frame consistent with the implementation schedule in the approved CI Work Plan, for review and approval. The CI Report should include all information and data collected from during the investigation and describe in detail the work performed to accomplish the objectives as set forth within this SOW. The CI Report format shall be consistent with this SOW and include appropriate tables, figures, well logs, laboratory analytical data, references, appendices, etc. to effectively portray the data generated during the investigation and to support any conclusions drawn in the CI Report, and provide recommendations for additional investigation to fill remaining data gaps. Submission of a CI (or CI/CAS, if applicable) Work Plan Addendum may be required if additional data gathering is necessary following completion of the CI in order to evaluate potential corrective action alternatives.

2.0 CORRECTIVE ACTION STUDY

The CAS provides an objective and standardized process for evaluating, comparing, and contrasting potential corrective action alternatives. The primary objectives of the CAS are described as follows:

- 1) to evaluate the feasibility, effectiveness, and cost of at least two (2) potential remedial actions based on the findings of the Comprehensive Investigation (CI), and to compare and contrast those alternatives to each other and the "no action" alternative;
- 2) to recommend and justify a specific corrective action for the site; and

- 3) to determine the health and environmental effects of the remedial action.

The CAS process shall, at a minimum, include the following elements:

2.1 EVALUATION OF CORRECTIVE ACTIONS

The CAS is the process through which detailed assessments of at least two plausible corrective action alternatives and the "no action" alternative are performed. The evaluation must include: 1) a description of the contaminants of concern within each environmental media; 2) an identification of all real and potential human and environmental targets and an evaluation of all direct and indirect exposure pathways; 3) a description of the site-specific corrective action goals; 4) treatability studies for corrective actions considered innovative or unproven; and 5) a detailed individual and comparative analysis of each of the proposed corrective actions, and the "no action" alternative, to evaluate their ability to satisfy the following criteria:

- a) overall protection of human health and environment;
- b) compliance with Federal and State applicable, or relevant and appropriate requirements (ARARs);
- c) long-term effectiveness and permanence;
- d) reduction of toxicity, mobility and volume of contamination through treatment;
- e) short-term effectiveness;
- f) implementability;
- g) cost; and
- h) community acceptance.

For potential corrective action alternatives that would not result in short-term restoration of the site, the evaluation of those alternatives should also address the time frame in which the alternative might reasonably be expected to achieve the corrective action goals for the site.

2.2 RECOMMENDATION OF A CORRECTIVE ACTION

The detailed evaluation of potential corrective action alternatives shall provide the basis for recommending and supporting a specific corrective action or group of corrective actions for the site, which satisfies the requirements as defined in Section 2.1.

2.3 CAS REPORT

The CAS Report shall include: 1) a brief summary of the findings of previous environmental investigations, including a risk assessment, if performed; 2) a description of the site-specific corrective action goals; 3) a detailed description of each corrective action alternative evaluated, including the "no action" alternative; 4) a detailed discussion of each corrective action alternative evaluated in the context of satisfying the criteria defined in Section 2.1; 5) a recommendation for corrective action at the site; and 6) an Appendix containing any background information or literature which was used to evaluate each corrective action alternative.

KDHE strongly recommends that any persons performing CI/CAS activities with State of Kansas oversight obtain and familiarize themselves with the following documents. These documents provide guidance for the preparation, implementation, and reporting of CI/CAS activities, and constitute much of the technical basis on which KDHE reviews work plans, reports, and other submittals related to the CI/CAS process.

Information on obtaining the EPA documents is available on-line at <http://www.epa.gov/epahome/publications.htm>. Information on the State Cooperative Program administered by the Remedial Section of the Bureau of Environmental Remediation can be found on-line at the KDHE web site, http://www.kdheks.gov/remedial/state_remedial_unit.html.

EPA/600/R-98/018 February 1998; "EPA Guidance for Quality Assurance Project Plans (EPA QA/G-5)."

EPA/540/G-89/004 (OSWER Directive 9355.3-01) October 1988; "Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA."

EPA/600/R-96/055 August 2000; "Guidance for the Data Quality Objectives Process (EPA QA/G-4)."

EPA/540/1-89/002 December 1989; "Risk Assessment Guidance for Superfund: Volume I - Human Health Evaluation Manual (Part A)."

EPA/540/R-92/003 December 1991; "Risk Assessment Guidance for Superfund: Volume I - Human Health Evaluation Manual (Part B, Development of Risk-Based Preliminary Remediation Goals)."

Useful Website Links

Environmental Use Controls – <http://www.kdheks.gov/remedial/eucs.htm>

Risk-Based Standards for Kansas (RSK Manual) – http://www.kdheks.gov/remedial/rsk_manual_page.htm.

**BUREAU OF ENVIRONMENTAL REMEDIATION/REMEDIAL SECTION
GUIDELINE
SCOPE OF WORK (SOW)
FOR A
CORRECTIVE ACTION PLAN (CAP)/
CORRECTIVE ACTION (CA)**

BER POLICY#BER-RS-023

DATE: 1993

Revised 12/2001

Revised 12/2005

PAGES: 6

The Final Corrective Action Decision (CAD) identifies the remedial action(s) that will be implemented to address contamination of environmental media and prevent or eliminate exposure to receptors. The selected remedy is planned, designed, constructed, and implemented during the Corrective Action Plan and Corrective Action phases.

The primary objectives of the Corrective Action Plan (CAP) are described as follows:

- 1) To provide a preliminary conceptual design of the corrective action (CA) and a description of the tasks necessary to implement the corrective action consistent with the CAD;
- 2) To obtain additional data, if necessary, to support the development of the detailed design plans and specifications;
- 3) To provide detailed design plans and specifications including an Operations and Maintenance manual for the corrective action system;
- 4) To provide a Contingency Plan that identifies an alternative corrective action to be implemented in the event of a significant failure of the corrective action system;
- 5) To identify and obtain necessary easements and permits required for the implementation of the corrective action; and,
- 6) To create a Site Monitoring and Performance Evaluation Plan to monitor the effectiveness of the corrective action.

The primary objectives of the Corrective Action (CA) are described as follows:

- 1) To implement the Corrective Action Plan (CAP) as approved by KDHE;
- 2) To operate and maintain the corrective action system as described in the approved Operations and Maintenance Manual;
- 3) To evaluate and monitor the performance of the corrective action as described in the approved Site Monitoring and Performance Evaluation Plan;
- 4) To determine whether corrective action goals have been attained, or are likely to be attained;

- 5) To confirm attainment of corrective action goals by conducting post-corrective action monitoring as described in the approved Site Monitoring and Performance Evaluation Plan;
- 6) To implement the approved Contingency Plan to design, install and operate additional or alternative corrective action measures in the event the implemented corrective action is unable to attain corrective action goals within a reasonable timeframe as determined by KDHE;
- 7) To document and report to KDHE all activities performed pursuant to the corrective action;
- 8) To submit a final report to KDHE for approval which briefly describes the corrective action implemented at the site, and provides the appropriate data documenting that site-specific corrective action goals have been attained; and,
- 9) If desired, to submit a site reclassification plan to KDHE for approval, which reclassifies a site to resolved status on the Kansas Identified Sites List.

1.0 CORRECTIVE ACTION PLAN

This Scope of Work outlines the required elements of the CAP which is to be prepared as a deliverable document. The CAP shall, at a minimum, include the components described in Sections 1.1 through 1.5.

1.1 CORRECTIVE ACTION PLAN SCHEDULE

A detailed schedule must be provided which defines the dates for the performance of certain milestone corrective action tasks and provides dates for the submission of appropriate corrective action plans described in Section 1.5. It is suggested the detailed schedule be presented graphically in the form of a milestone chart (e.g., Gantt or Pert chart) or critical path diagram. As necessary, the detailed schedule must be updated and submitted to KDHE as part of the routine reporting requirements.

1.2 TASKS REQUIRED TO COMPLETE THE CORRECTIVE ACTION

Describe in detail all tasks necessary to acquire additional data to support the development of a final design corrective action plan and to construct, implement, and monitor the performance of the corrective action. All necessary tasks shall be documented and described in adequate detail to clearly state the manner in which they will be implemented and reported. The tasks shall address obtaining appropriate easements, permits, etc. and, where hazardous substances, pollutants, or contaminants will remain on site at concentrations that disallow unlimited use and unrestricted exposure, include those tasks necessary for implementing institutional controls within the framework of KDHE's Environmental Use Controls Program.

1.3 DESIGN SPECIFICATIONS FOR THE CORRECTIVE ACTION

Complete design specifications and drawings/schematics, including any relevant figures and/or site system engineering layouts (e.g., process flow diagram, piping and instrumentation diagram, etc.), shall be provided. Dependent upon the scale and complexity of the corrective action, as

determined in a consultation with KDHE, preliminary, intermediate and/or pre-final/final design plans shall be submitted to KDHE for approval. The Final Design Corrective Action Plan shall provide specifications in sufficient detail so that contractors may bid (unit basis) on the construction, implementation, and operation of the corrective action system(s).

1.4 SITE MONITORING AND PERFORMANCE EVALUATION PLAN

A Site Monitoring and Performance Evaluation Plan shall be provided as an element of the Final Design Corrective Action Plan to document the activities necessary to evaluate the effectiveness of the corrective action, including post-corrective action monitoring, if appropriate. At a minimum, the performance evaluation plan shall include:

- a description of the site-specific corrective action goals;
- a description of the corrective action system operations that will be evaluated and identification of criteria that will be used to evaluate system performance;
- frequency, methods, and rationale for site monitoring;
- a description of the environmental media to be monitored (ground water, surface water, soil, soil vapor, etc.);
- a description of quality assurance/quality control (QA/QC) considerations for the laboratory and field;
- identification of institutional controls that will be monitored;
- a plan for evaluating changes in land use of impacted areas that may alter the effectiveness of the corrective action; and,
- a description of reporting methods, format, and frequency.

At a minimum, the Site Monitoring and Performance Evaluation Reports shall include:

- a narrative description and graphic illustration of the effectiveness of the corrective action;
- a description of system operations and performance;
- a system startup report and "as built" drawings of the corrective action system (required for the first Site Monitoring and Performance Evaluation Report);
- a description of repairs or modifications made to the corrective action system during the reporting period, as appropriate;
- laboratory analytical data including copies of laboratory reports and summary tables;
- contaminant isoconcentration maps;
- a tabular comparison of the current monitoring data to previous monitoring results;
- a figure illustrating the site and associated monitoring wells or other sample point locations;
- static water elevation measurements;
- a contour map of the water level elevation;
- a description of any deviations from the approved sampling procedures;
- results of QA/QC data and an evaluation of the validity of the analytical data;
- logs of any newly constructed site wells;

- an evaluation of the effectiveness of institutional controls implemented for the corrective action (monitoring frequency will be identified in the approved Site Monitoring and Performance Evaluation Plan);
- an evaluation of land use of the impacted area (monitoring frequency will be identified in the approved Site Monitoring and Performance Evaluation Plan);
- specific conclusions and recommendations (for further action or change) based on historical site monitoring and performance data trends; and,
- all other relevant site data collected during the reporting period.

1.5 DELIVERABLES FOR THE CORRECTIVE ACTION PLAN

Corrective Action Plans shall be submitted to KDHE for approval. Corrective Action Plans to be submitted may include:

- Preliminary Design Corrective Action Plan, which documents the conceptual design of the corrective action;
- Data Acquisition Plan (optional), which describes various tasks necessary to gain additional data to develop the final design specifications;
- Intermediate Design Corrective Action Plan (optional), which integrates newly collected data into a refined conceptual design of the corrective action; and,
- Pre-Final/Final Design Corrective Action Plan, which provides detailed design specifications for the corrective action, describes all the tasks necessary to construct and implement the corrective action, and includes a schedule for construction and implementation of the corrective action.

The KDHE project manager shall be consulted to determine if a Data Acquisition Plan or Intermediate Design Corrective Action Plan are necessary. If field activities or treatability/pilot studies will be conducted to gain additional data for the design activities, a Data Acquisition Plan shall be submitted for KDHE approval. The Data Acquisition Plan should include the following appendices: a Field Sampling Plan; a Quality Assurance Project Plan; and, a Health and Safety Plan.

Supplemental plans that may be incorporated into the Preliminary and Pre-Final/Final Design Corrective Action Plans include:

- an Operations and Maintenance Manual;
- a Site Monitoring and Performance Evaluation Plan;
- a Construction Quality Assurance Project Plan;
- a formal Contingency Plan; and,
- a Health and Safety Plan for the Corrective Action.

The KDHE project manager will determine which supplemental plans are required to be submitted for approval based on the individual site requirements.

2.0 CORRECTIVE ACTION

The Corrective Action (CA) shall, at a minimum, include the components described in Sections 2.1 through 2.4.

2.1 IMPLEMENTATION OF SELECTED CORRECTIVE ACTION

The corrective action selected for the site shall be implemented in accordance with the KDHE-approved Pre-Final/Final Design Corrective Action Plan. Implementation of the corrective action shall proceed according to the schedule contained within the KDHE-approved Pre-Final/Final Design Corrective Action Plan.

2.2 SITE MONITORING AND PERFORMANCE EVALUATION

The effectiveness of the corrective action shall be monitored as provided through implementation of the Site Monitoring and Performance Evaluation Plan described within the KDHE-approved Pre-Final/Final Design Corrective Action Plan. The schedule and frequency for corrective action performance evaluation and site monitoring shall proceed according to the KDHE-approved schedule in the Pre-Final/Final Design Corrective Action Plan.

Site Monitoring and Performance Evaluation Reports must be submitted to KDHE in accordance with the KDHE-approved Site Monitoring and Performance Evaluation Plan contained within the Pre-Final/Final Design Corrective Action Plan. The Site Monitoring and Performance Evaluation Reports should contain all of the information and data as described within the Site Monitoring and Performance Evaluation Plan, including a narrative description and/or graphic evaluation of the effectiveness of the corrective action as compared to the site-specific corrective action goals.

If the site monitoring and performance evaluation program demonstrates that the implemented corrective action is incapable of achieving corrective action goals within a reasonable timeframe as determined by KDHE, the Site Monitoring and Performance Evaluation Report should recommend modifications or augmentation to the existing corrective action system that will enable the system to achieve the corrective action goals. KDHE must be notified within seven days of any significant changes that may diminish the effectiveness of the implemented corrective action to protect human health and the environment.

2.3 IMPLEMENTATION OF THE CONTINGENCY PLAN

If it is demonstrated that the implemented corrective action is incapable of achieving corrective action goals, and modification or augmentation of the existing corrective action system does not or will not enable the system to attain corrective action goals, the approved Contingency Plan shall be implemented. If the contingent remedy represents a fundamental change from the original selected remedy, then community involvement activities and CAD Amendment may be necessary.

2.4 CORRECTIVE ACTION DELIVERABLES

A Final Corrective Action Report that documents the corrective action implemented at the site has satisfied the site-specific corrective action goals shall be submitted to KDHE for approval. The Final Corrective Action Report may consist of any one or more of the following:

- Final Site Monitoring and Performance Evaluation Report;
- Final Post-Corrective Action Monitoring Report;
- Final Corrective Action Report; and/or,
- Reclassification Plan (see Reclassification Plan Scope of Work).

The KDHE project manager will be consulted to determine the appropriate form or content of the Final Corrective Action Report. Upon approval of the Final Corrective Action Report, KDHE shall issue a letter confirming completion of corrective action implemented at the site. If desired, the respondent may submit a Reclassification Plan to KDHE for approval. Upon approval of the Reclassification Plan, the site will be reclassified to a resolved status on the Kansas Identified Sites List.

3.0 RECOMMENDED GUIDANCE AND REFERENCES

KDHE strongly recommends that any persons performing Corrective Action Plan/Corrective Action activities with State of Kansas oversight obtain and familiarize themselves with the following documents. These documents provide guidance on the preparation, implementation, and reporting of CAP/CA activities, and constitute much of the technical basis on which KDHE reviews work plans, reports, and other submittals related to the CAP/CA process. Information on obtaining the EPA documents is available on-line at <http://www.epa.gov/epahome/publications.htm>. Information on the State Cooperative Program administered by the Remedial Section of the Bureau of Environmental Remediation can be found on-line at the KDHE web site at http://www.kdheks.gov/remedial/state_remedial_unit.html.

EPA/600/R-98/018 February 1998; EPA Guidance for Quality Assurance Project Plans (EPA QA/G-5).

EPA 600/R-96/055 August 2000; Guidance for the Data Quality Objectives Process (EPA QA/G-4).

EPA 540/R-95/059 June 1995; Remedial Design/Remedial Action Handbook.

Useful Website Links

Environmental Use Controls - <http://www.kdheks.gov/remedial/eucs.htm>

Risk-Based Standards for Kansas - http://www.kdheks.gov/remedial/rsk_manual_page.htm

Exhibit 4
Project Deliverable and Milestone¹ Schedule

Deliverable/Milestone	Due Date
Draft Interim Measure (IM) Work Plan/Design ²	Due within 45 days of the effective date of the Consent Order if specifically ordered in the CO or within 45 days of the date requested by KDHE, if not specifically ordered in the CO
Commence implementation of IM Work Plan/Design	Per the IM Schedule established in KDHE-approved IM Work Plan/Design
Complete IM implementation/construction and reporting	Per the IM Schedule established in KDHE-approved IM Work Plan/Design
Draft Comprehensive Investigation/Corrective Action Study (CI/CAS) Work Plan ³	Due within 30 days of the effective date of the Consent Order or as otherwise directed by KDHE
Commence implementation of CI/CAS Work Plan	Per the CI/CAS Schedule established in KDHE-approved CI/CAS Work Plan
Complete CI/CAS activities and reporting	Per the CI/CAS Schedule established in KDHE-approved CI/CAS Work Plan
Draft Corrective Action Plan/Corrective Action (CAP/CA) Work Plan ^{4, 5}	Due within 60 days after KDHE issuance of the Final Corrective Action Decision or as otherwise directed by KDHE
Commence implementation of CA	Per the CAP/CA Schedule established in KDHE-approved CAP/CA Work Plan
Certification of CA completion (or fully operational and functional) and reporting	Per the CAP/CA Schedule established in KDHE-approved CAP/CA Work Plan
Quarterly Progress Reports ⁶	Due each quarter, 45 days after the end of each quarter or as otherwise agreed by KDHE
Monitoring Reports	Per the KDHE-approved schedule(s) or as otherwise directed by KDHE

¹ One hard copy plus one electronic copy of each deliverable shall be provided unless otherwise directed by KDHE; revised deliverable(s) shall be provided within 30 days of receipt of KDHE comments.

² In the event KDHE requests Respondent perform IM activities; in accordance with Scope of Work #BER-RS-029, incorporated herein as Exhibit 3A, and including other associated documents as described in the IM Scope of Work.

³ In accordance with Scope of Work #BER-RS-020, incorporated herein as Exhibit 3B, and including other associated documents as described in the CI/CAS Scope of Work.

⁴ In accordance with Scope of Work #BER-RS-023, incorporated herein as Exhibit 3C, and including other associated documents as described in the CAP/CA Scope of Work.

⁵ Use of generic term "CAP/CA Work Plan" intended to encompass/represent all possible required elements as described in the CAP/CA Scope of Work referenced above.

⁶ As approved by the KDHE Project Coordinator, quarterly progress may be documented in other routine monitoring report submittals.

KDHE-BER Remedial Section Field Activities Notification Form

This field notification form is only applicable to sites managed by the Remedial Section and is not intended for use by other programs such as the Underground Storage Tank Program. If internet access is unavailable to provide the advance written notification via our website (<http://www.kdheks.gov/remedial/index.html>), please complete this form and fax to 785-296-7030. If you have any problems completing this form, please call 785-296-1673.

Note: If you are amending or canceling a previous notification, please enter the exact ID number (if known).

- ☐ I want to submit a new notification.
- ☐ I want to amend a previous notification. (Enter ID number if known) _____
- ☐ I want to cancel a previous notification. (Enter ID number if known) _____

(*denotes required fields)

*Project Name: _____

*KDHE Project Manager: _____

Location of work:

*County: _____

City (or nearest city): _____

Anticipated dates and duration of work:

*Start Date (mm/dd/yy): _____

*Duration of work (days): _____

- ☐ Check this box if work is expected to occur on any weekend or holiday days.

Primary Field Contact:

*Name: _____

*Affiliation/Company: _____

*Primary Phone Number: _____ Alternate Phone Number: _____

Email Address: _____

Alternate Contact:

*Name: _____

*Affiliation/Company: _____

*Primary Phone Number: _____ Alternate Phone Number: _____

Email Address: _____

***Brief Description of Work to be Performed:**

EXHIBIT 7
Form of Invoice for Oversight Costs
(Payroll and Expense Detail Entries are for Example Purposes Only)

KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT

Period: XX/XX/XX through XX/XX/XX

Date: XX/XX/XX

Payment Due in 30 days

This invoice is for oversight costs for the State Cooperative Program. Please make check payable to the Bureau of Environmental Remediation and enclose a copy of the invoice with payment to ensure your account is credited appropriately. Questions regarding this invoice should be directed to Linda Benson at (785) 291-3248 or lbenson@kdheks.gov.

Bill To: XXXXXXXXXXXX
XXXXXXXXXXXX
XXXXXXXXXXXX
XXXXXXXXXXXX
XXXXXXXXXXXX

Remit To: KDHE/Bureau of Environmental Remediation
Attn: Linda Benson
1000 SW Jackson Street, Suite 410
Topeka, KS 66612-1367

Project Name: XXXXXXXXXXXXXXXXXXXX
Consent Order: XX-E-XXXX Cost Acct: XXX

Payroll Details:

Title:	Program Consultant I
Total Hours:	x.xx
Title:	Administrative Assistant
Total Hours:	x.xx
Title:	Administrative Specialist
Total Hours:	x.xx
Title:	Prof Geologist IV
Total Hours:	x.xx
Title:	Environmental Scientist II
Total Hours:	x.xx
Title:	Prof Environmental Eng II
Total Hours:	x.xx

Expense Details:

Type of Expense:	Lab Analysis
Vendor Name:	XXXX
Amount:	\$xxx.xx
Type of Expense:	Field Supplies
Vendor Name:	XXXX
Amount:	\$x.xx
Type of Expense:	Travel (SCP)
Vendor Name:	XXXX
Amount:	\$xx.xx

Payroll Costs: \$xxx.xx
Other Costs: \$xxx.xx
Internal Costs: \$xxx.xx
TOTAL DUE: \$x,xxx.xx

Please Note: The Kansas Department of Health and Environment's (KDHE) Internal office expenses which are administrative costs, computer use, rent, utilities and other support services are included with this invoice. This amount equals 40% of the payroll and other costs totals, except for contractual, field supplies, KDHE equipment use, and lab analysis, which are computed at 12.5%.

THIS IS AN INVOICE

KDHE now accepts DiscoverCard. A 2.5% convenience fee will be assessed on all DiscoverCard transactions. If paying by DiscoverCard, contact Teresa Hattan at (785)296-8049 or thattan@kdhe.state.ks.us for details.





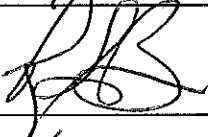

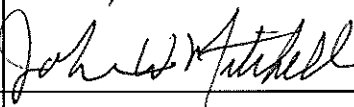

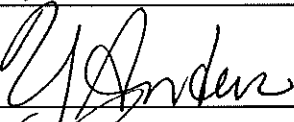

LEGAL SERVICES

In the Matter of the:

Environmental Contamination at the
Caterpillar Work Tools Site
600 Balderson Boulevard
Wamego, Kansas,
Respondent.

Case Number 09-E-0147 BER

Date: May 3, 2010

Name	Signature	Date	Comments
Steven Bryant Project Manager		4/30/10	
E. Jean Underwood Unit Manager		4/30/10	
Rick Bean Section Chief		5/3/10	
Gary Blackburn Bureau Director		5/3/10	
John Mitchell Director of Environment		5/3/10	
Paul G. Marx Attorney		5/5/10	
Yvonne Anderson General Counsel		5/5/10	
Roderick Bremby Secretary		5/7/2010	

Please return to legal.

Received

MAY 03 2010

DIRECTOR OF ENVIRONMENT
DEPT. OF HEALTH & ENVIRONMENT